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[54] **CONTROL OF TRANSMISSION POWER IN WIRELESS PACKET DATA TRANSFER**

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[58] **Field of Search** 370/318, 328, 370/335, 311, 342, 391, 332, 333, 320, 317, 352, 389, 353, 354, 356, 441; 455/69, 134, 126, 135, 226

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[57] **ABSTRACT**

In packet switched data transfer of the cellular radio system, the control of the transmission power comprises characteristics as well of the closed-loop control and the open-loop control. Before forming the connection and during long pauses between the packets, the terminal device measures the control signal transmitted by the base station and compares its signal power (**R0**) to the target level (**t0**), that is included by the base station in the control signal as a parameter. The base station informs in the control signal also the transmission power, whereby the terminal device sets the same power to be its transmission power, corrected by the difference between the target level and the measured quality of the link (**t0-R0**). In addition, also the measured quality of the link (RXQUAL) is transmitted in the acknowledgment messages of the packets, whereby the transmitting device changes its transmission power so that the quality will be controlled to the certain target level. The biggest step of the change is determined by the length of the packets. In the packet transfer downlink, the base station uses first the maximum power and corrects then its transmission power based on the measuring information included in the acknowledgment messages transmitted by the terminal device.

23 Claims, 2 Drawing Sheets